

3 Guided Tour Tutorial

This section is a guided tour tutorial of a planning and response scenario within Prince William County, Virginia. The guided tour tutorial demonstrates the use of:

- ❑ CAMEO
- ❑ MARPLOT

Sample data are already in the CAMEO modules. After you finish the guided tour tutorial, delete the sample data for Prince William County before entering information specific to your community.

For more on deleting data, see section **3.12 Housekeeping** in this *Guided Tour*.

3.1 Requirements

3.1.1 System requirements

To complete the guided tour tutorial, you must be in Windows 3.1, and have CAMEO and MARPLOT loaded.

For more on how to install CAMEO on your PC, see **Chapter 2: Installing CAMEO** in the *CAMEO® 1.2 for Windows User's Guide*.

You need a PC with enough RAM to run all applications at once.

3.1.2 Required maps

A MARPLOT map is displayed from a subdirectory that contains a collection of files. You need two maps:

- ❑ The CAMEO map, which should be in its own directory inside the CAMEO directory
- ❑ The Prince William County, Virginia map, which should be in its own directory inside the MARPLOT directory.

3.2 Your mission

You are a member of the Local Emergency Planning Committee (LEPC) for Prince William County. Using CAMEO, you want to:

- ☐ evaluate the hazard posed to Prince William County by the Green Valley Water Facility.
- ☐ update the records that describe this facility.

You will use hazards analysis procedures described in *Technical Guidance for Hazards Analysis* (see **Appendix B: Bibliography** in the *CAMEO® 1.2 for Windows User's Guide*).

3.3 The potential hazard

At its site in the northern section of Prince William County, the Green Valley Water Facility stores and uses chlorine in amounts exceeding the Threshold Planning Quantity (TPQ). Chlorine is frequently shipped to the facility along James Madison Highway. This major route passes through populated areas within the county.

Before beginning your analysis, you:

- ☐ obtained from the facility a Tier II chemical inventory form, indicating amounts, locations, and storage conditions for chlorine stored at the plant.
- ☐ talked with facility managers to familiarize yourself with daily plant operations.

3.4 Starting CAMEO

To begin your Guided Tour:

1. Display Windows' **Program Manager** window.
2. Open the **CAMEO** Program Group.
3. Double-click on the CAMEO icon. CAMEO starts and displays the **CAMEO** login dialog box (*Figure 1*).
 - ☐ The first time you start CAMEO after installation, CAMEO creates several files. This may take several minutes.

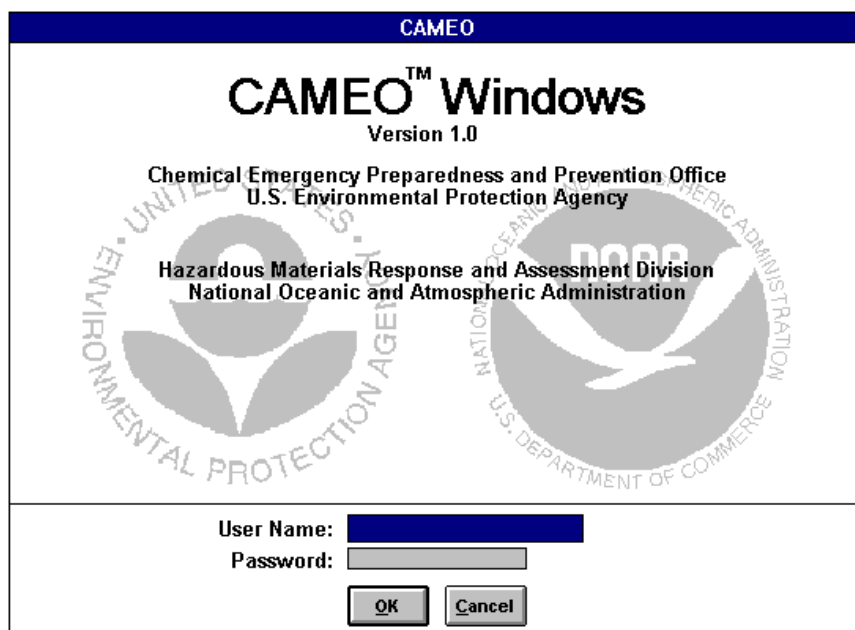


Figure 1: CAMEO's login dialog box

4. In the User Name field, type **rapid**.
5. *Do not* enter a password in the Password field.
6. Click **OK**.
 - ❑ CAMEO's modules and functions are now available.
 - ❑ CAMEO always opens with its **File** menu pulled down (*Figure 2*).

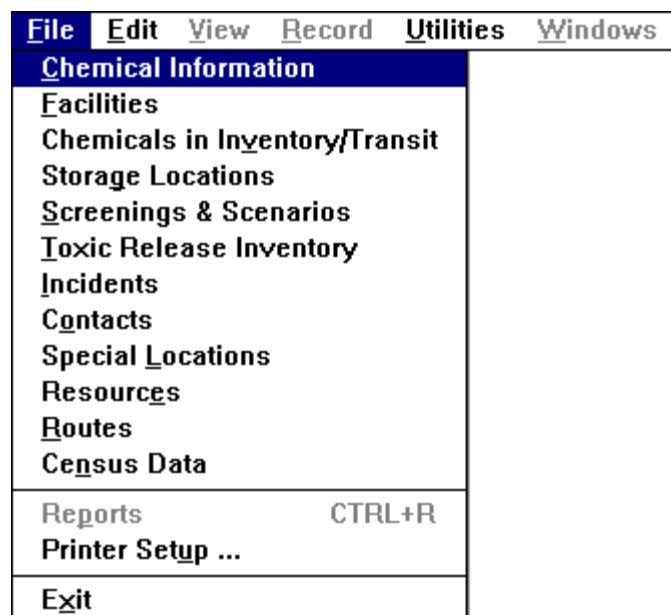


Figure 2: CAMEO's File menu pulled down

3.5 CAMEO records and searches

3.5.1 Searching on one or more fields

First, familiarize yourself with hazards posed by chlorine. The Chemical Information module contains information about chlorine.

To search for a particular substance, search for one or more of these:

- ☐ chemical name or synonym
- ☐ United Nations (UN) accession number
- ☐ Chemical Abstract Service (CAS) registry number
- ☐ Registry of Toxic Effects of Chemical Substances (RTECs) accession number
- ☐ Department of Transportation (DOT) label

3.5.2 Lesson #1 -- Learning objectives

- ❑ To access the Chemical Information module
- ❑ To learn one way to search for information about chlorine
- ❑ To access RIDS information

3.5.3 Lesson #1 -- Steps

1. Open the Chemical Information module. Click the **File** menu, and then click **Chemical Information** (Figure 2 above). CAMEO opens the **Chemical Information** browse window (Figure 3).

Chemical Information			
Chemical Name	Data Source	Pref Chem	Record Id
"MONOCITE" METHACRYLATE MONOMER	NOEPA	F	600003376
"MONOCITE" METHACRYLATE MONOMER	NOEPA	F	600003379
((2,2,2-TRICHLORO-1-HYDROXYETHYL) DIMETHYLPHOSPHONATE)	NOEPA	F	600005058
((4-CHLOROPHENYL)-1-PHENYL)-ACETYL-1,3-INDANDION (GERMAN)	NOEPA	F	600001178
((DIMETHOXYPHOSPHINOTHIOYL)THIO)BUTANEDIOIC ACID DIETHYL ESTER	NOEPA	F	600003073
((DIMETHYLARSINO)OXY)SODIUM-AS-OXIDE	NOEPA	F	600004512
((METHYLPHENOXY)METHYL)OXIRANE	NOEPA	F	600001348
(+)-(S)-SEC-BUTYLAMINE	NOEPA	F	600000672
(+)-2-AMINOBUTANE	NOEPA	F	600000670
(+)-2-BUTYLAMINE	NOEPA	F	600000671
(+)-3-CARENE	NOEPA	F	600001038
(+)-ALLELRETHONYL (+)-CIS,TRANS-CHRYSANTHEMATE	NOEPA	F	600000092
(+)-CARENE-3	NOEPA	F	600001039
(+)-CATECHIN	NOEPA	F	600001040
(+)-CATECHOL	NOEPA	F	600001041
(+)-SEC-BUTYLAMINE	NOEPA	F	600000672
(+)-SUCROSE	NOEPA	F	600004746
(+)-ALPHA-METHYLPHENETHYLAMINE	NOEPA	F	600000290
(+)-BENZEDRINE	NOEPA	F	600000291

Figure 3: Chemical Information browse window

2. Begin searching the database by using the arrow buttons or scroll bars. Or, to find a particular chemical, click the **View** menu. CAMEO overlays the View menu on top of the **Chemical Information** window (Figure 4).

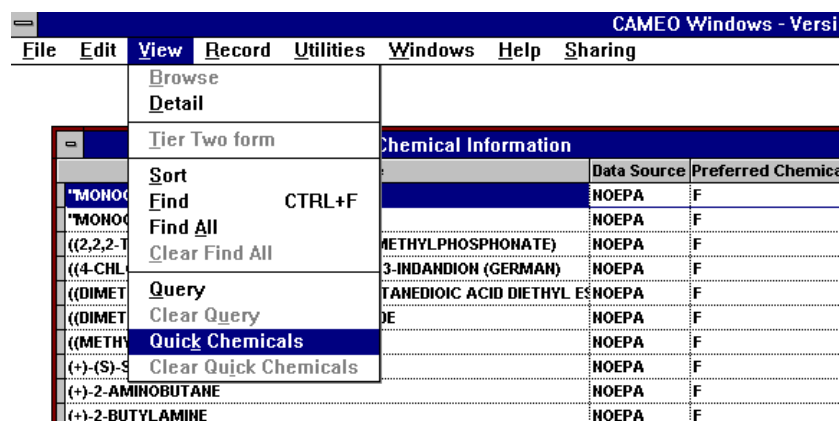


Figure 4: View menu -- Quick Chemicals selection on top of Chemical Information browse window

3. Click **Quick Chemicals**. CAMEO displays the **Quick Chemical Query** dialog box (Figure 5).

Quick Chemical Query

Chemical Name:

CAS Number:

Formula:

UN Number:

Label:

NFPA: H: F: R: S:

RTECS:

EHS(Y/N):

CHRIS Code:

☒ AND ☐ OR

Figure 5: Quick Chemical Query dialog box -- chlorine

4. In the Chemical Name field, type **chlorine**. Leave all other fields blank. To start the search for chemicals that contain chlorine, click **Run**.
 - ❑ CAMEO searches its database.
 - ❑ CAMEO displays the results of the Quick Chemical Query in the **Chemical Information** browse window (*Figure 6*).
 - ❑ The **Chemical Information** browse window now displays records for chemicals that meet your search criterion (i.e., chlorine).
 - ❑ Each of these chemicals has the string of characters “CHLORINE” at the beginning of its Chemical Name.

Chemical Information			
Chemical Name	Data Source	Pref Chem	Record Id
CHLORINE	NOEPA	T	600001098
CHLORINE (ACGIH,DOT,OSHA)	NOEPA	F	600001098
CHLORINE CYANIDE	NOEPA	F	600001393
CHLORINE CYANIDE (CLCN)	NOEPA	F	600001393
CHLORINE DIOXIDE	NOEPA	F	600001100
CHLORINE DIOXIDE (ACGIH,DOT,OSHA)	NOEPA	F	600001100
CHLORINE DIOXIDE (OCLO)	NOEPA	F	600001100
CHLORINE DIOXIDE HYDRATE, FROZEN	NOEPA	F	600001100
CHLORINE DIOXIDE HYDRATE, [FROZEN]	NOEPA	T	600001099
CHLORINE DIOXIDE ION(1-)	NOEPA	F	600001103
CHLORINE FLUORIDE	NOEPA	F	600001102
CHLORINE FLUORIDE (CL2F6)	NOEPA	F	600001102
CHLORINE FLUORIDE (CLF3)	NOEPA	F	600001102
CHLORINE FLUORIDE (CLF5)	NOEPA	F	600001102
CHLORINE FLUORIDE OXIDE	NOEPA	F	600003978
CHLORINE FLUORIDE OXIDE (CLO3F)	NOEPA	F	600003978
CHLORINE IODIDE	NOEPA	F	600002803
CHLORINE IODIDE (CLI)	NOEPA	F	600002804
CHLORINE MOL.	NOEPA	F	600001099

Figure 6: Chemical Information browse window -- results of Quick Chemical Query

5. To get more information about chlorine, double-click on the CHLORINE record (row) in the **Chemical Information** browse window. CAMEO displays the **Chemical Information** detail window for CHLORINE (*Figure 7*).

Chemical Information

Chemical Name: CHLORINE

Source: NOEPA

- NFPA Codes

F: 0 - Will not burn

H: 3 - Extremely hazardous - use full protection

R: 0 - Normally stable

S: Oxidizer DOT Label: POISON GAS

- Identification

UNNO #: 1017 ☐ ALOHA Chemical Formula: Cl2

CAS #: 7782-50-5

CHRIS: CLX STCC #: 4920523

- Synonyms

BERTHOLITE

CHLOOR (DUTCH)

CHLOR (GERMAN)

Last Modified: 04/24/1995

Page 1
Page 2
RIDS
Comments
User Fields

Figure 7: Chemical Information detail window -- CHLORINE

Quick Chemical is a special type of search available only in the Chemical Information module. Other types of searches in CAMEO are initiated with other menu items. Use the View and Record menus (later in the Guided Tour).

6. Click the **RIDS** button to view response information about chlorine in the Response Information Data Sheets (RIDS). CAMEO displays the **Response Information Data Sheet (RIDS)** window (Figure 8).
 - ❑ RIDS contains emergency response recommendations and information for almost 4,000 chemicals.

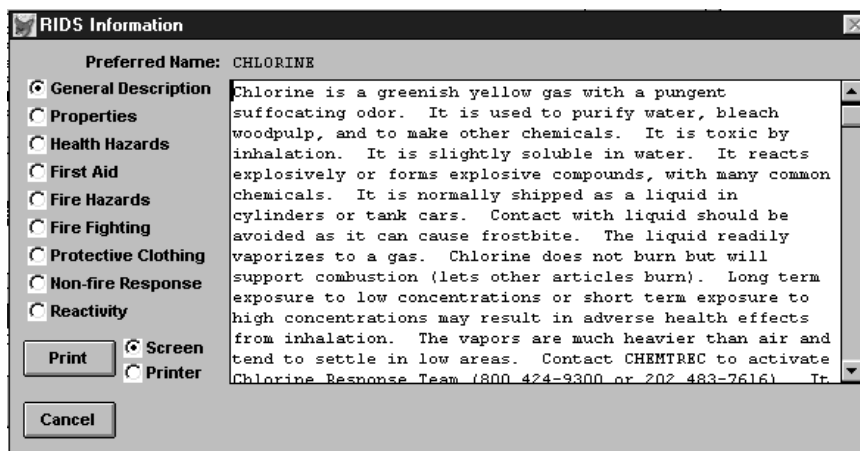


Figure 8: Response Information Data Sheet (RIDS) window -- CHLORINE

7. Click the buttons along the left side of the **Response Information Data Sheet** window (for CHLORINE) to see information about each of eight emergency response-related topics.
 - ❑ The RIDS (*Figure 8* above) shows CHLORINE's General Description.
8. Click **Cancel** to return to the **Chemical Information** detail window for CHLORINE (*Figure 7* above).
9. Click the **File** menu prepare for the next lesson.

3.6 Facilities module

In the Facilities module, you can keep a detail record for each facility reporting to the Local Emergency Planning Committee.

Use CAMEO's "linking" features to cross-reference each facility record to a symbol representing its location on a map, as well as to Site Plan Viewer and the Chemicals in Inventory/Transit, Contacts, Screenings & Scenarios, and Incident modules.

3.6.1 Lesson #2 -- Learning objectives

- ❑ To access the Facilities module
- ❑ To learn one way to search for information about facilities

As shipped, CAMEO's Facility Information module contains five records (beginning with Abalone Press). Each record describes a different facility in Prince William County. You can move from record to record in this or any other CAMEO module by:

- ❑ scrolling through browse windows using arrow keys or the scroll bars
- ❑ using the arrow buttons in the upper left corner of each detail window.

3.6.2 Lesson #2 -- Steps

1. Use CAMEO's **File** menu to move among CAMEO's modules and companion applications. To use the Facilities module, click the **File** menu, and then click **Facilities**. CAMEO displays the **Facilities** browse window.
2. You can also use the Facilities module to perform searches. To search the Facilities module for all facilities in the town of Haymarket:
 - ❑ Click the **View** menu, and then click **Find All**. CAMEO displays the **Find All (set filter)** dialog box (*Figure 9*).
 - ❑ In the **Select Field To Search In** field, select **Location City** from the pull-down list. Click on the arrow button just to the right.
 - ❑ In the Enter Value to Search For field, type haymarket.
 - ❑ When the **Find All (set filter)** dialog box looks like the one below (*Figure 9*), click Set.

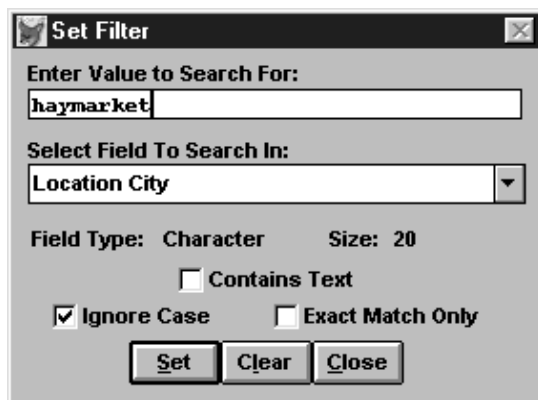


Figure 9: Find All (set filter) dialog box

Facilities

Facility Name: Green Valley Water Facility
 Department: Chlorination Division
 Site: 1 of 1
☐ Shipper

Addresses

Location: U.S. Highway 15
 City: Haymarket State: VA Zip: 87530-
 Cross Street:
 County: North Fire District:
 Mail: Town Hall
 City: Haymarket State: VA Zip: 87530-

Site Phones

Emergency	{703} 432-0432 +	{ } - +	{ } - +
	{ } - +	{ } - +	{ } - +
	{ } - +	{ } - +	{ } - +

Contacts

K Owner	K. Duncan	{ } - +	Add
K Owner	Town of Haymarket	{ } - +	Edit
			Delete

Last Modified: 07/21/95

Figure 11: Facilities detail window -- Green Valley Water Facility

3.6.3 Contact Information in the Facilities module

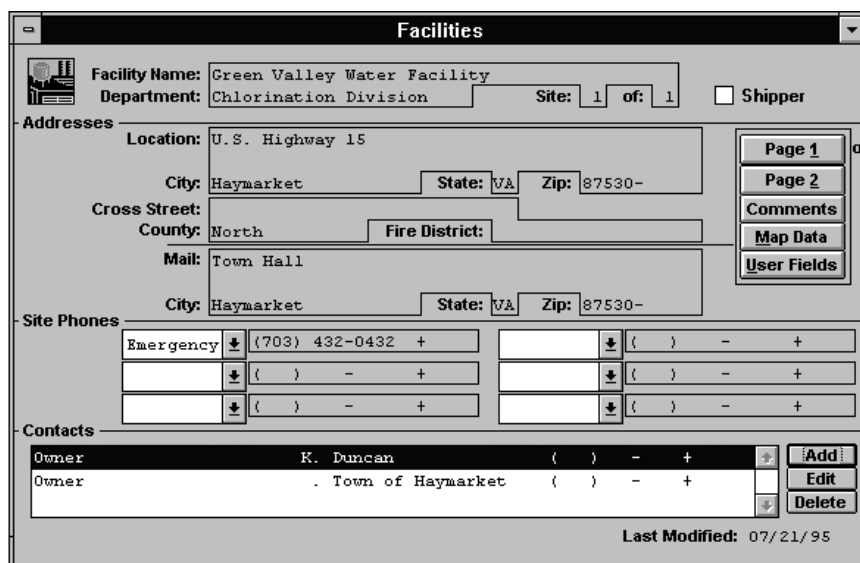
In the Facilities module, as in several other CAMEO modules, there are data entry fields for contact names, addresses, and phone numbers. All CAMEO contact information is replicated in the Contacts module.

3.6.4 Lesson #3 -- Learning objective

- ❑ To add a contact record that describes Angela Wong, the Senior Plant Manager at the Green Valley Water Facility.

3.6.5 Lesson #3 -- Steps

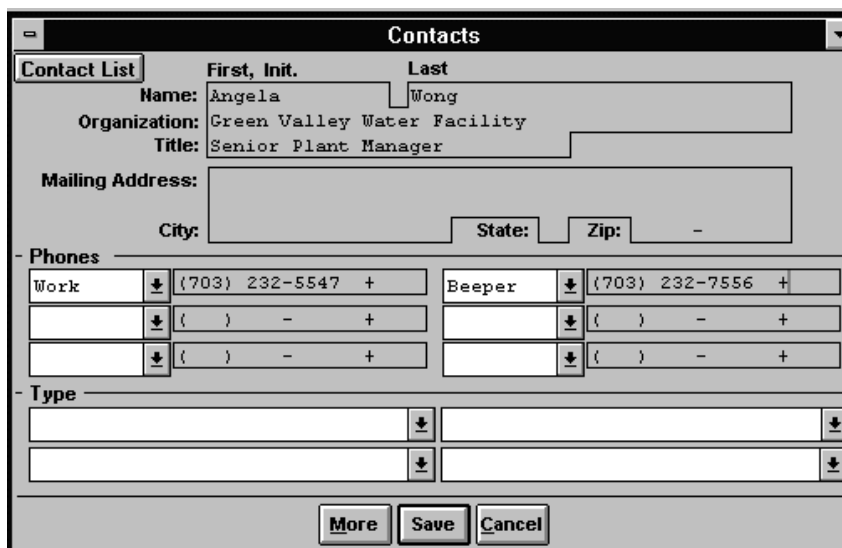
1. While the **Facilities** detail window for the Green Valley Water Facility is displayed on your screen, click the **Record** menu, and then click **Edit**. CAMEO displays the Green Valley Water Facility **Facilities** detail window, ready for editing (*Figure 12*).



The **Facilities** window displays details for the **Green Valley Water Facility**. The **Department** is **Chlorination Division**, and the **Site** is **1 of 1**. There is an unchecked **Shipper** checkbox. The **Addresses** section includes **Location** (U.S. Highway 15), **City** (Haymarket), **State** (VA), **Zip** (87530-), **Cross Street**, **County** (North), **Fire District**, and **Mail** (Town Hall). The **Site Phones** section has a table with columns for **Emergency**, **Area**, **Number**, and **Extension**. The **Contacts** section shows a list with columns for **Owner**, **First, Init.**, **Last**, **Area**, **Number**, and **Extension**. The current contact is **K. Duncan** from the **Town of Haymarket**. Buttons for **Add**, **Edit**, and **Delete** are present. The **Last Modified** date is **07/21/95**.

Figure 12: Facilities detail window

- To add Angela Wong as a contact, click **Add** -- next to the scrolling list of contacts. CAMEO displays the **Contacts** dialog box in the edit mode (Figure 13).
- Enter information about Angela Wong into the **Contacts** dialog box. Press the **Tab** key to move from one data field to another. Make sure your entry is the same as shown below. Click **Save**. CAMEO adds Angela Wong to the contact list and displays the **Facilities** detail window.



The **Contacts** dialog box is in edit mode. It has a **Contact List** tab. The **Name** field is split into **First, Init.** (Angela) and **Last** (Wong). The **Organization** is **Green Valley Water Facility**, and the **Title** is **Senior Plant Manager**. The **Mailing Address** section includes **City**, **State**, and **Zip** (with a hyphen). The **Phones** section has a table with columns for **Work**, **Area**, **Number**, and **Extension**, and another for **Beeper**. The **Type** section has two dropdown menus. At the bottom are **More**, **Save**, and **Cancel** buttons.

Figure 13: Contacts dialog box -- addition of Angela Wong to Contact List

- On CAMEO's toolbar, click the  button to save the entire Facilities detail record.

3.7 Chemicals in Inventory/Transit module

Use the Chemicals in Inventory/Transit module to maintain records of chemical inventories at facilities in your community. In this module, you store information from Tier II forms from facilities reporting under Title III.

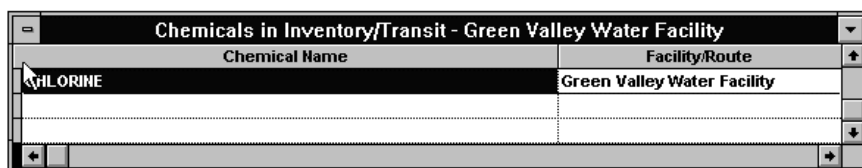
CAMEO's Chemicals in Inventory/Transit detail record is similar to the Tier II form.

3.7.1 Lesson #4 -- Learning objective

- ❑ To access chemical inventory records for a particular facility.

3.7.2 Lesson #4 -- Steps

1. To access the Chemicals in Inventory/Transit module and display the chemical inventory for the Green Valley Water Facility:
 - ❑ While the Green Valley **Contacts** detail window is displayed (*Figure 13* above), click the Record menu, and then click Show Links.
 - ❑ From the **Show Links** submenu, click Chemicals in Inventory/Transit.
 - ❑ CAMEO displays the **Chemicals in Inventory/Transit - Green Valley Water Facility** browse window (*Figure 14*).
 - ❑ This browse window shows the list of chemicals stored at this facility.



Chemicals in Inventory/Transit - Green Valley Water Facility	
Chemical Name	Facility/Route
CHLORINE	Green Valley Water Facility

Figure 14: Chemicals in Inventory/Transit - Green Valley Water Facility browse window -- list of chemicals stored at facility

3. Double-click on **CHLORINE** to access its chemical inventory record. CAMEO displays the **Chemicals in Inventory/Transit - Green Valley Water Facility** detail window for CHLORINE (*Figure 15*).

- ❑ This detail window contains information on storage amounts, storage locations, and hazards of CHLORINE.

The screenshot shows a software window titled "Chemicals in Inventory/Transit". It contains several sections for data entry and viewing:

- Inventory/Transit/Shipper:** Radio buttons for "Inventory" (selected), "In Transit", and "Shipper". Facility name: "Green Valley Water Facility", Division: "Chlorination Division".
- CAS #:** "7782-50-5" (with an "Add" button). **Chemical Name:** "CHLORINE".
- Trade Secret:** Unchecked checkbox.
- MSDS #:** Empty field.
- Physical State:** Checkboxes for "Pure" (checked), "Mix", "Solid", "Liquid", and "Gas" (checked).
- Hazards:** Checkboxes for "Fire", "Pressure", "Reactive", "Acute", and "Chronic" (checked).
- Amount Totals:** "Maximum: 2000 lbs." and "Average: 1000 lbs.".
- Amount Estimates:** "Maximum: 03 1,000 - 9,999 lbs" and "Average: 03 1,000 - 9,999 lbs".
- Storage Locations:** A list box containing four entries: "[] A 2 4 Chlorination Building". Below the list are "Add", "Edit", and "Delete" buttons.
- Buttons:** "RIDS", "Comments", "Map Data", and "User Fields" are on the right.
- Footer:** "Signed Date: 03/10/95", "Received On: 03/18/95", "Entered Date: 06/12/95", and "Last Modified: 07/21/95".

Figure 15: Chemicals in Inventory/Transit -- Green Valley Water Facility detail window -- CHLORINE

3.8 Site Plan Viewer

Use Site Plan Viewer to keep a file of facility floor plans you prepare using a Windows drawing application.

3.8.1 Lesson #5 -- Learning Objective

To access and view a facility site plan using Site Plan Viewer.

3.8.2 Lesson #5 -- Steps

1. View the storage locations for chlorine at the Green Valley Water Facility. You should still be viewing the **Chemicals in Inventory/Transit - Green Valley Water Facility/Chlorine** detail record. Click on the **Record** menu, click on the **Show Links...** submenu, and then click on **Storage Locations**. CAMEO displays the **Storage Locations** browse window.
2. Highlight the first storage location record.
3. Access the site plan for Green Valley Water Facility and highlight the location of chlorine. Click on the **Sharing** menu, click on the **Site Plan Viewer** submenu, and then click **Show on Plan**.
4. CAMEO displays the **CAMEO Site Plan Viewer** (Figure 16) with the site plan record and symbol for the correct location of chlorine selected.

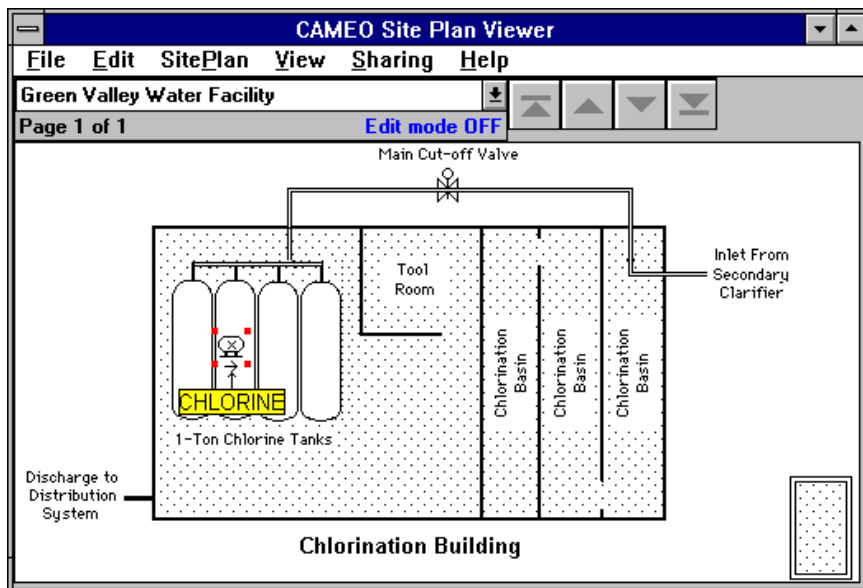


Figure 16: CAMEO Site Plan Viewer

5. To view CAMEO's facility record, return to CAMEO. Click Site Plan Viewer's **Sharing** menu, click on the **CAMEO** submenu, and then click **Get Info on Plan**. CAMEO displays the **Facilities** detail window for the Green Valley Water Facility.

3.9 Query function

There are several ways to search for information. In a previous example, you used Find All (in this *Guided Tour*, see section **3.6.2 Lesson #2 -- Steps**). For more flexible and complex searches, use the Query function (see **Appendix C: Query Maker** in the *CAMEO® 1.2 for Windows User's Guide*).

3.9.1 Lesson #6 -- Learning objectives

- ❑ To use the Query function to search for all records that meet two criteria.

3.9.2 Lesson #6 -- Steps

In the Facilities module, search for facilities where chlorine (the first criteria) is stored in the city of Haymarket (second criteria).

1. Close all previously opened windows. Click the **Windows** menu, and then click **Close All Windows**.
2. Open the Facilities module. Click the **File** menu, and then click **Facilities**.
3. In the earlier search of the Facilities module, you searched for all detail records meeting a single criteria.
 - ❑ Now, search for all records meeting two criteria.
 - ❑ Click the **View** menu, and then click **Query**. CAMEO displays the **Query List Manager** dialog box (*Figure 17*).



Figure 17: Query List Manager dialog box

4. Highlight the query called "Facilities in XX City that store YY Chemical."
5. Click **Select**. CAMEO displays a **Enter a Comparison Value** dialog box that you use to enter a city (*Figure 18*).

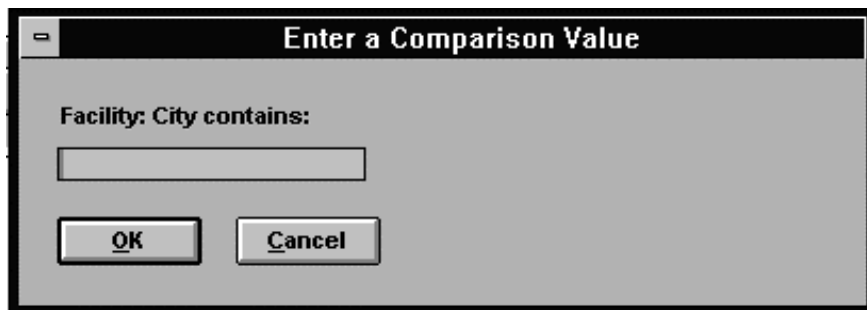


Figure 18: Enter a Comparison Value dialog box -- for facility city

6. Type in a city, e.g., **Haymarket**. Click **OK**.
7. CAMEO displays another **Enter a Comparison Value** dialog box that you use to enter a chemical (*Figure 19*).

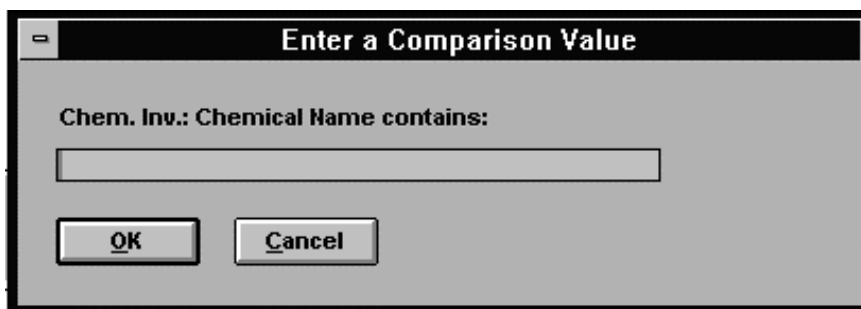


Figure 19: Enter a Comparison Value dialog box -- for chemical name

8. Type in a chemical, e.g., **CHLORINE**. Click **OK**. CAMEO displays the **Facilities in XX City that store YY Chemical** dialog box (Figure 20). This dialog box contains information about your search criteria, output fields and type of output.

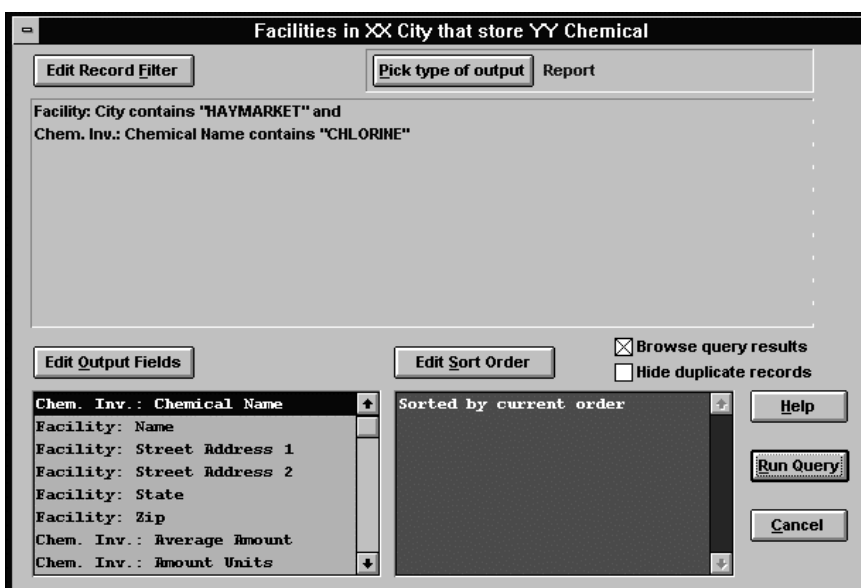


Figure 20: Facilities in XX City that store YY Chemical

9. Click **Run Query**. CAMEO displays the results of the search in a **Facilities Query** browse window (Figure 21).

Facilities Query	
Chem. Inv.: Chemical Name	Facility: Name
CHLORINE	Green Valley Water Facility
CHLORINE	M & S Chemicals

Figure 21: Facilities Query browse window

10. From this browse window, you can access all CAMEO record manipulation functions.
To clear the Query, click the **View** menu, and then click **Clear Query**.

3.10 Mapping basics

MARPLOT® is the digital mapping application used by CAMEO.

3.10.1 Lesson #7 -- Learning objectives

- ❑ To display a map in MARPLOT.
- ❑ To search for a particular map location.
- ❑ To link symbols on a map to records in CAMEO.

3.10.2 Lesson #7 -- Steps

1. Click the **Sharing** menu, click the **MARPLOT** submenu, and then click **Go To MARPLOT** (Figure 22).
- ❑ If this is the first time you have used MARPLOT, CAMEO may prompt you to locate MARPLOT on your PC's hard drive.
 - ❑ If so, find the MARPLOT application inside the MARPLOT directory.

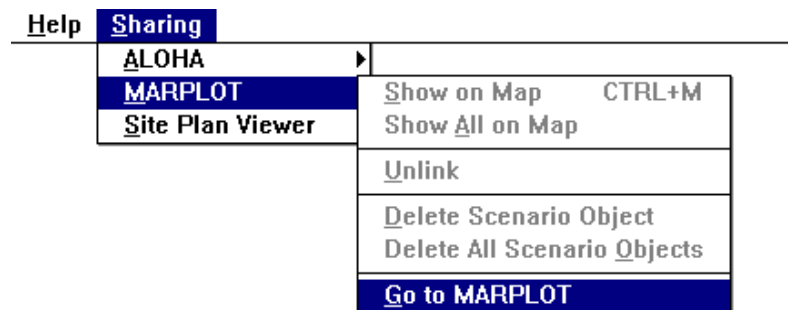


Figure 22: Sharing menu -- MARPLOT submenu and Go to MARPLOT menu item

2. MARPLOT displays a greeting window.

3. Click the **OK** button. MARPLOT displays a map showing all of Prince William County (*Figure 23*).
 - ☐ Symbols on the map represent chemical facilities, schools, hospitals, and other locations of concern to county planners.

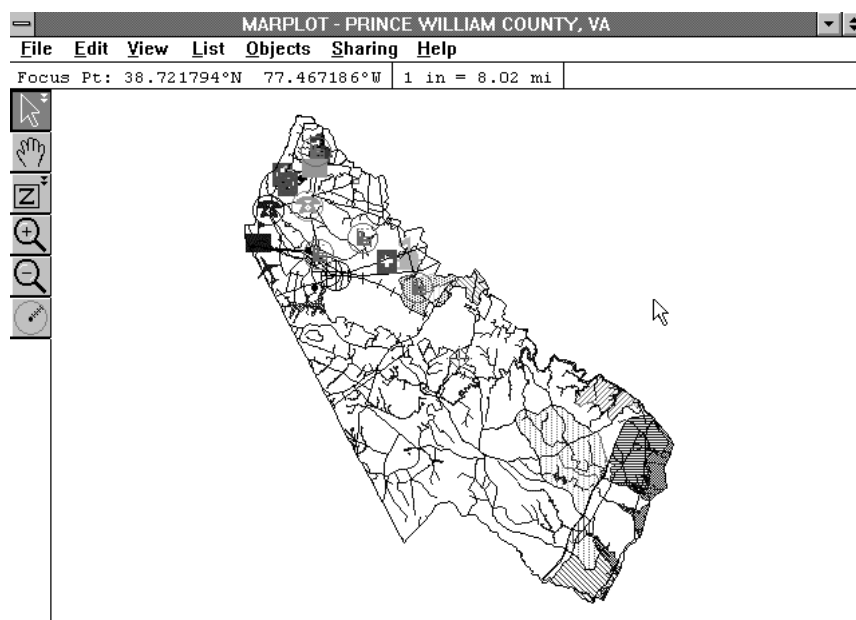


Figure 23: MARPLOT - PRINCE WILLIAM COUNTY, VA map

4. MARPLOT can search for roads, intersections, street address ranges, symbols marking facilities or other locations, geographical features, and other kinds of map objects.
 - ☐ The Green Valley Water Facility is near the intersection of Loudoun Drive and James Madison Highway (U.S. Highway 15).
 - ☐ To begin your search, click the **List** menu, and then click **Search**.
5. To set up the search:
 - ☐ Under the **Search for objects** popup menu, select **with names that start with...**
 - ☐ In the field to the right of this popup menu, type in Loudoun.
 - ☐ From **the Layer (s) to search** popup menu, select **Individual Layer ...**
 - ☐ From the popup menu just beneath that, select **Roads**.
 - ☐ From the **Map(s) to search** popup menu, select **Maps in View**.
 - ☐ When the Search Criteria dialog box looks like the one below (*Figure 24*), click **Search**. MARPLOT begins the search.

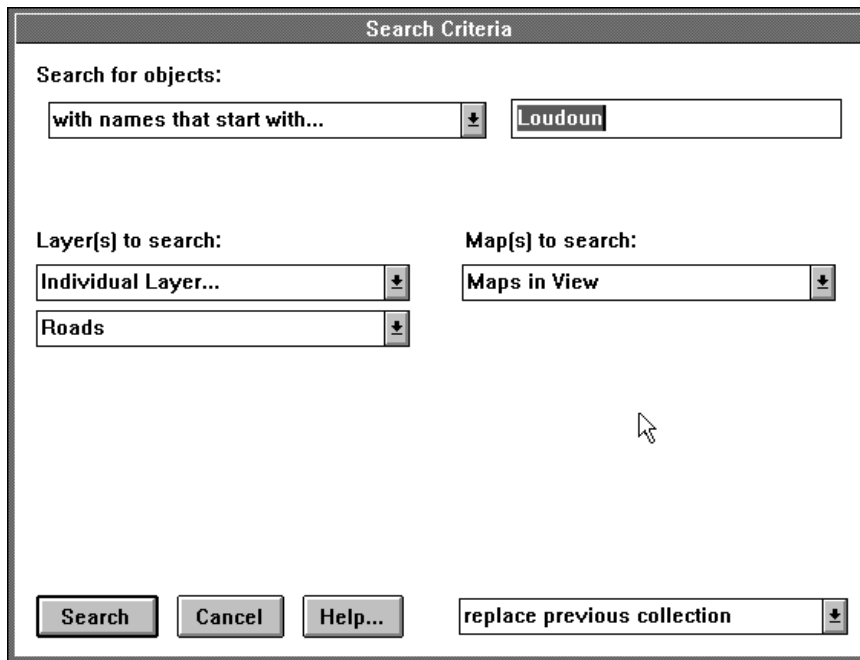


Figure 24: MARPLOT's Search Criteria dialog box

6. MARPLOT displays the **Search Collection** dialog box (*Figure 25*). Both Loudoun Ave and Loudoun Dr appear in the **Search Collection** dialog box.
 - ❑ Click on Loudoun Dr.
 - ❑ Click the **Intersections** button.
 - ❑ MARPLOT searches for all intersections along Loudoun Drive.

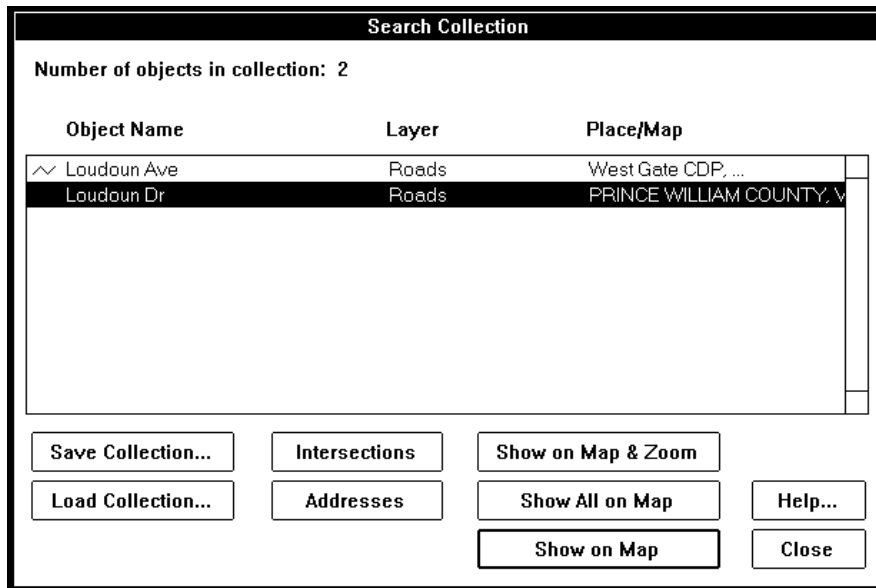


Figure 25: MARPLOTT's Search Collection dialog box -- results of search

7. There are 9 intersections along Loudoun Drive. The Green Valley Water Facility is near the intersection with James Madison Highway.
 - ❑ Click on *James Madison Hwy {US Hwy 15}* (the second intersection in the list).
 - ❑ Click the **Show on Map & Zoom** button. MARPLOTT displays the intersection (*Figure 26*).

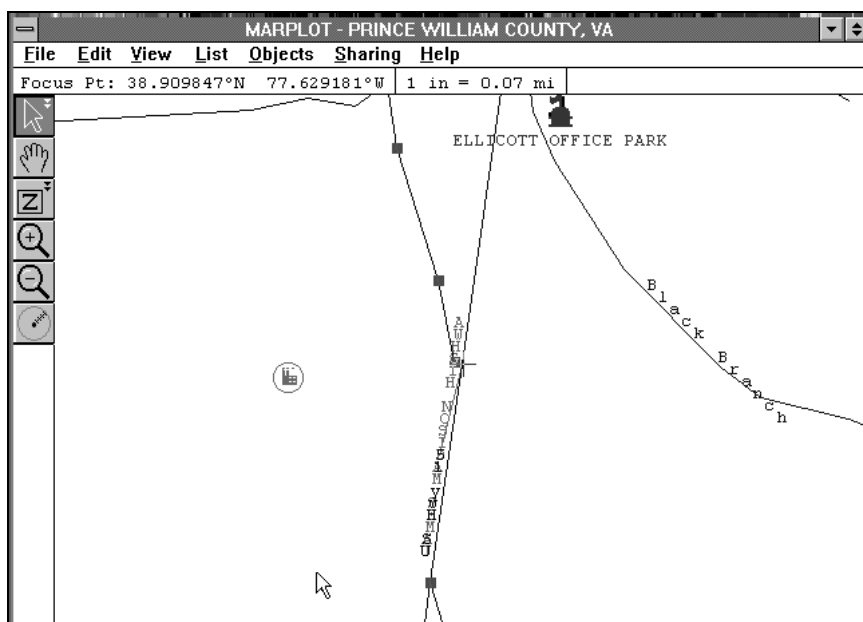


Figure 26: MARPLOTT - PRINCE WILLIAM COUNTY, VA -- Intersection of Loudoun Dr. and James Madison Highway

8. You'll see a view of the area around the intersection on your map.
 - ❑ The intersection is in the center of the view. The cursor is placed directly on the intersection.
 - ❑ To the left of the cursor is a symbol object, representing the Green Valley Water Facility plant.
9. You'll want to name this view and save it, so you can return to this view later.
 - ❑ Click the View menu, and then click **Save Current View**. CAMEO displays the **Save Current View** dialog box (*Figure 27*).

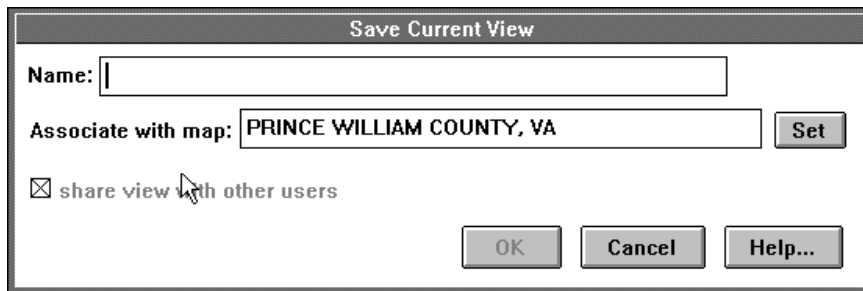


Figure 27: Save Current View dialog box

10. In the **Save Current View** dialog box, type View of Green Valley Water Facility and click **OK**.
11. Link the Green Valley Water Facility symbol to the Green Valley Water Facility record in the Facility Information module.
 - ❑ To create a link, be sure the arrow tool is selected in MARPLOT's tool palette.
 - ❑ If not, click on the arrow tool in the palette to select it.
12. Click on the symbol for the Green Valley Water Facility to select the symbol.
 - ❑ When you select an object, MARPLOT displays basic information about the object -- in the lower map margin.
 - ❑ You see four small boxes around the object, indicating the object is selected (*Figure 28*).

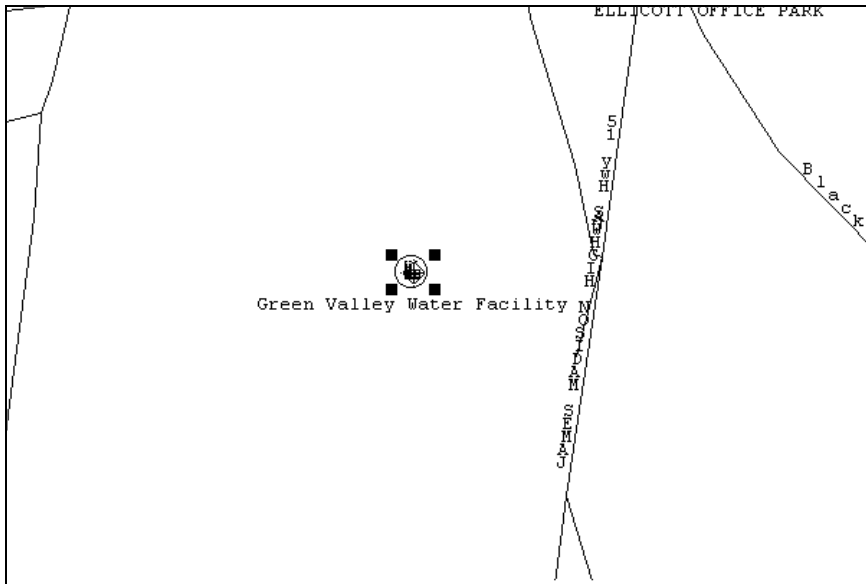


Figure 28: Green Valley Water Facility symbol

13. To begin the linking process:

- ❑ Click MARPLOT's **Sharing** menu.
- ❑ Click the CAMEO submenu, and then click **Link Object**. (Figure 29).

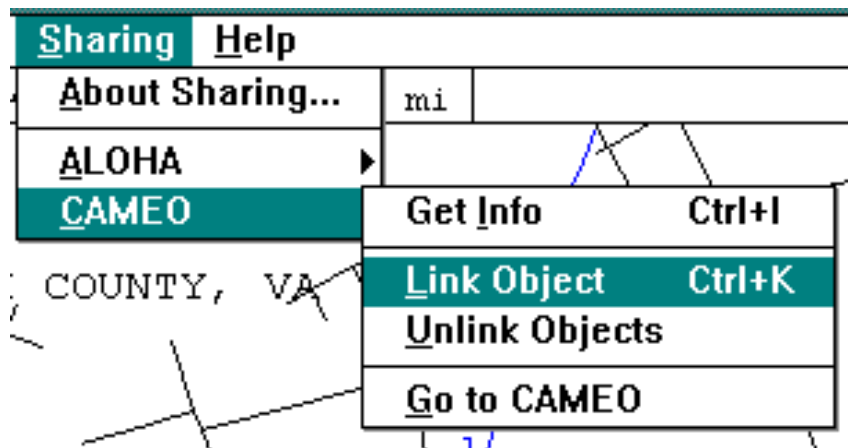


Figure 29: MARPLOT's Sharing menu -- CAMEO submenu and Link Object menu item

14. CAMEO comes forward. You'll see a new menu in the upper right called **Link to MARPLOT**. Go to the facility record for Green Valley Water Facility. Click the **File** menu, and then click **Facilities**.
15. Click on the Green Valley Water Facility record to highlight it, click **Link to MARPLOT** menu, and then click **Link**. After the link is complete, MARPLOT comes forward.
16. To test the link, click MARPLOT's **Sharing CAMEO** menu, and then click **Get Info**. CAMEO displays the **Facilities** detail window for the Green Valley Water Facility.
17. To go from the Green Valley Water Facility record to the map symbol, click CAMEO's **MARPLOT Sharing** menu, and then click **Show on Map**.
 - ❑ You'll be taken to MARPLOT.
 - ❑ The Green Valley Water Facility symbol is selected.
 - ❑ The focus point is centered on the symbol.

3.11 Screenings & Scenarios

Use the Screenings & Scenarios module to perform hazards analysis calculations recommended in the *Technical Guidance for Hazards Analysis* (see **Appendix B: Bibliography** in the *CAMEO® 1.2 for Windows User's Guide*).

After you have an estimate of the radius of the threat zone, you can plot the zone on a map in MARPLOT. You can estimate the size of the threat zone around a facility or along a transportation route by:

- ❑ using EPA's "credible worst case" assumptions to obtain a worst case threat zone estimate
- ❑ entering weather conditions and other information that you believe to be more typical of the region and facility.

3.11.1 Lesson #8 -- Learning objectives

- ❑ To access the Screenings & Scenarios module
- ❑ To calculate a vulnerable zone
- ❑ To display a vulnerable zone on a map

3.11.2 Lesson #8 -- Steps

1. Return to the Green Valley Water **Facilities** detail window. In MARPLOT, select the Green Valley Water Facility object. Click MARPLOT's **Sharing** menu, click **CAMEO**, and then click **Get Info**.
2. To view the Screenings & Scenarios detail records created for the facility, click the **Record** menu, click **Show Links**, and then click **Screening & Scenarios** (*Figure 30*).

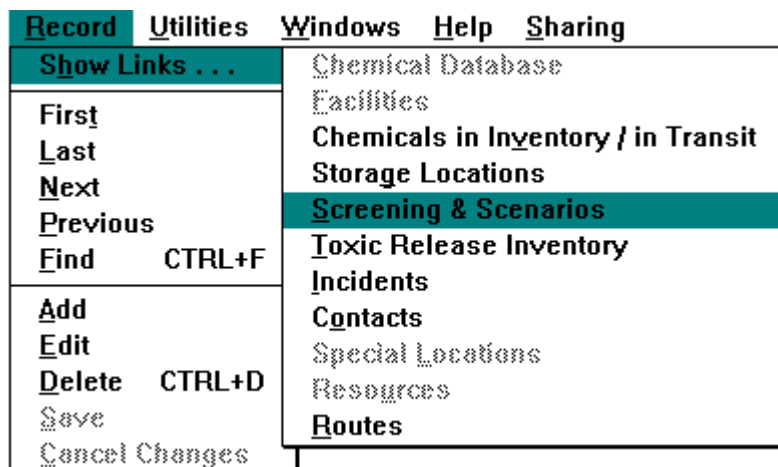
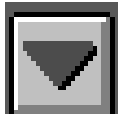
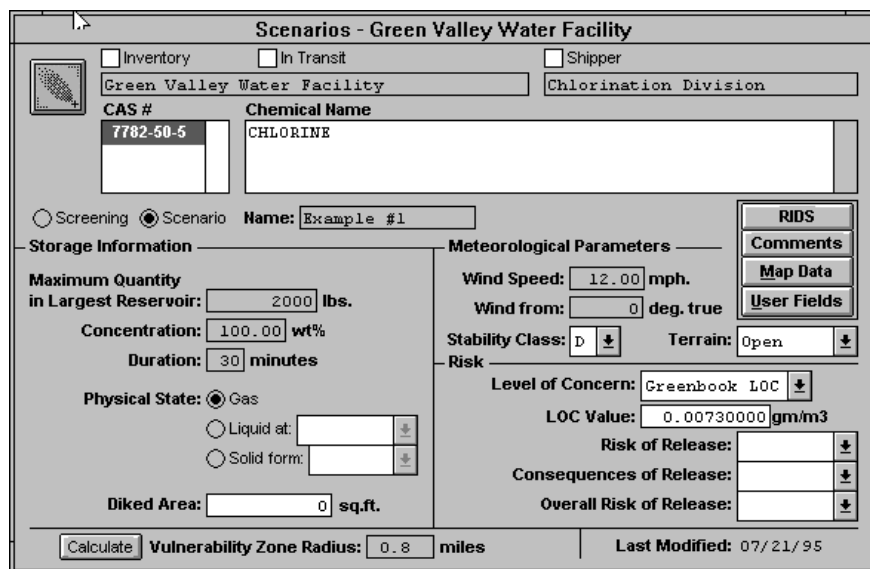


Figure 30: Record menu -- Show Links submenu and Screenings & Scenarios menu item

3. CAMEO displays the browse window of all Screenings & Scenarios detail records for the Green Valley Water Facility (*Figure 31*).

5. This record shows results of “credible worst-case” screening calculations for chlorine at the Green Valley Water Facility, made according to procedures described in the *Technical Guidance*.
- ❑ In a worst-case screening, the entire contents of a chlorine tank are assumed to escape into the atmosphere over 10 minutes, forming a gas cloud that would drift away from the plant in the direction the wind is blowing.
 - ❑ A worst-case screening assumes:
 - a low wind speed
 - very little atmospheric turbulence to dilute the chlorine cloud
 - and a conservative estimate of the concentration of chlorine that may cause adverse health effects (e.g., for chlorine, this is one-tenth of the Immediately Dangerous to Life and Health (IDLH) concentration).
 - ❑ Under these conditions, the threat zone (i.e., “the area potentially at risk”) is predicted to extend more than 10 miles downwind. Depending on wind direction, chlorine concentrations within the zone could reach or exceed the level of concern shown on the Screenings & Scenarios record.
 - ❑ For more about making screening calculations, see the *CAMEO® 1.2 for Windows User’s Guide*, including the:
 - *Technical Guidance* listed in **Appendix B: Bibliography**
 - “Screenings & Scenarios” section of **Chapter 3: CAMEO’s modules**
6. To move to the next record in the module, click the next arrow button in the Toolbar.
- 
- ❑ Local meteorologists can provide a description of the most common weather conditions observed at Haymarket.
 - ❑ The highest-risk operation at the plant is the changing of chlorine tanks, done only during daytime hours.
 - ❑ This record shows results of a hazards analysis calculation for a “more likely” release of chlorine from the Water Facility. This is a release through the valve of a single 1-ton chlorine cylinder sheared off while being transferred by forklift from a transport vehicle to the facility.
 - ❑ In this case, the contents of the tank are expected to escape over 30 minutes rather than 10 minutes, and instead of “worst case” weather conditions, wind speed is higher and the atmosphere is more turbulent (so air is more quickly mixed into the chlorine cloud, diluting the chlorine cloud to below hazardous concentrations). This time, the threat zone is predicted to extend only 0.8 miles from the accident site (*Figure 33*).



Scenarios - Green Valley Water Facility

☐ Inventory ☐ In Transit ☐ Shipper

Green Valley Water Facility Chlorination Division

CAS # 7782-50-5 Chemical Name CHLORINE

☐ Screening ☒ Scenario Name: Example #1

Storage Information

Maximum Quantity in Largest Reservoir: 2000 lbs.

Concentration: 100.00 wt%

Duration: 30 minutes

Physical State: ☒ Gas
☐ Liquid at:
☐ Solid form:

Diked Area: 0 sq.ft.

Vulnerability Zone Radius: 0.8 miles

Meteorological Parameters

Wind Speed: 12.00 mph.

Wind from: 0 deg. true

Stability Class: D

Terrain: Open

Risk

Level of Concern: Greenbook LOC

LOC Value: 0.00730000 gm/m3

Risk of Release:

Consequences of Release:

Overall Risk of Release:

Last Modified: 07/21/95

Figure 33: Scenarios - Green Valley Water Facility detail window -- another release scenario

- To plot this threat zone in MARPLOT, click the **Sharing** menu, click **MARPLOT**, and then click **Show on Map**. MARPLOT comes forward and the threat zone is automatically plotted, centered on the Green Valley Water Facility symbol (*Figure 34*).

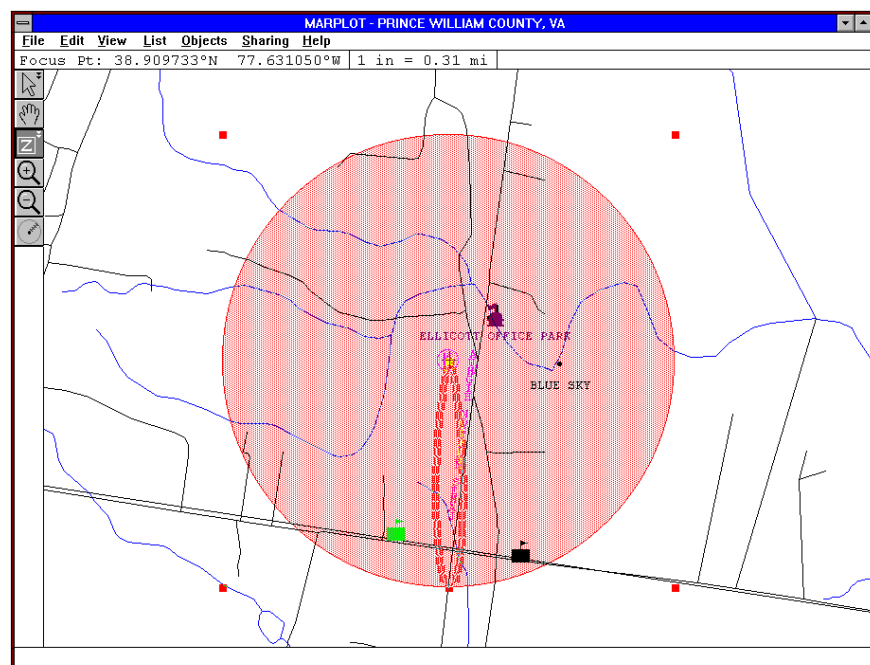


Figure 34: MARPlot - PRINCE WILLIAM COUNTY -- Vulnerability zone for Green Valley Water Facility

8. However, at the current map scale, it's not possible to see the entire zone. To adjust the map scale, click MARPLOT's **View** menu, and then click **Set Scale**.
9. In the **Set Scale** dialog box, next to the 1 in =, type **0.50** to change the map scale to 1 inch = one-half mile. Click **OK**. The scale of your map changes to 1" = 0.5 mile.
10. You'll see most of the threat zone on your window. Be sure the zone is still selected. Check whether any symbol objects representing vulnerable populations are within the threat zone. Click the **List** menu, and then click **Search**.
11. To set up the search:
 - ❑ Under the **Search for objects** popup, select **that are inside of or touched by ...** from the popup menu of object types.
 - ❑ Check that the currently selected object(s) is selected in the next popup menu.
 - ❑ Under the **Layer (s) to search**, choose **Multiple Layers...** from the popup menu.
 - ❑ In the list of layers, click on the *CAMEO Hospitals* and *CAMEO Schools* layers to place check marks next to their names (check marks indicate MARPLOT will search these layers).
 - ❑ Click on the names of any other layers that have check marks next to them, to remove the check marks (so MARPLOT does not search these layers).
 - ❑ When the **Search Criteria** dialog box on your screen looks like the one below (*Figure 35*), click **Search**. MARPLOT begins the search.

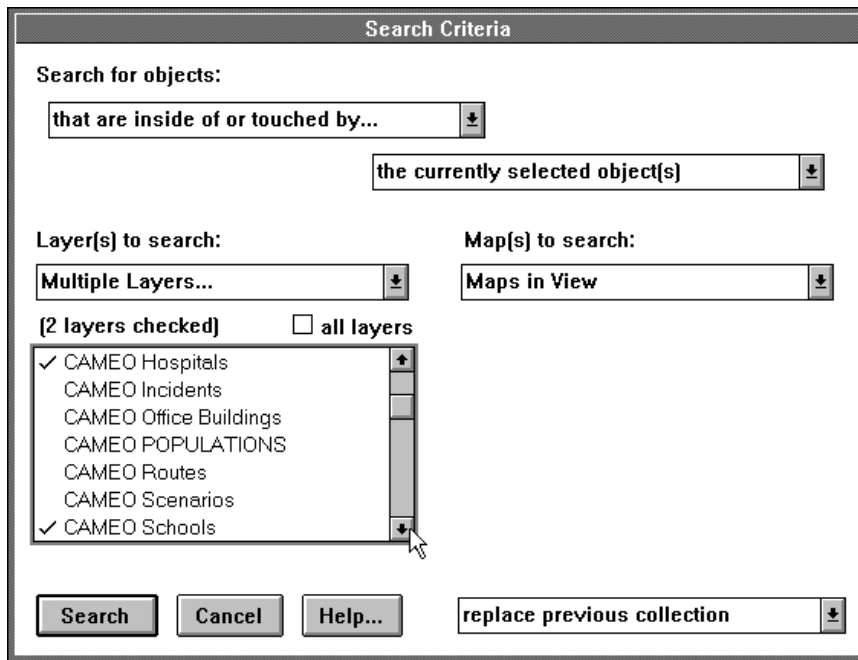


Figure 35: MARPLOT's Search Criteria dialog box

12. The figure below (*Figure 36*) shows objects in the threat zone. The symbol object representing Central Elementary School is inside the threat zone, so this school appears in the search collection.

- ☐ Highlight the name of the school.
- ☐ Click **Show on Map**.
- ☐ MARPLOT displays the school on the map and selects it.

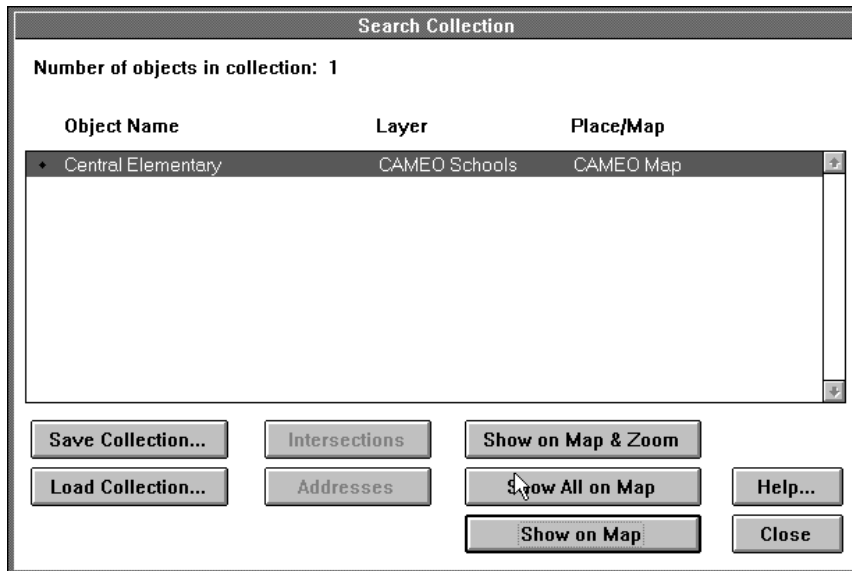


Figure 36: MARPLOT's Search Criteria dialog box -- objects in threat zone

13. Once the map is redrawn, the symbol for Central Elementary is selected, and the Focus Point is centered on it. Next, go to CAMEO to obtain information about the school.
 - ❑ Click MARPLOT's **Sharing** menu, click the **CAMEO** submenu, and then click **Get Info**.
14. The symbol for Central Elementary School was previously linked to a record describing the school in CAMEO's Special Locations module. CAMEO displays the **Special Locations** detail window for the Central Elementary School (*Figure 37*).

Special Locations

Location Name: Central Elementary

Location Type: ELEMENTARY SCHOOL

Addresses

Location: 2550 Logmill Road

City: Haymarket State: VA Zip: 87530-

Cross Street:

County: North Fire District:

Mail:

City: State: Zip: -

Site Phones

Emergency			
(703) 342-0049	+		
() - +			
() - +			

Contacts

Other		
B. Stephens	(703) 876-5432+	

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Comments

Map Data

User Fields

Add Edit Delete

Last Modified: 07/21/95

Figure 37: Special Locations detail window -- Central Elementary School

15. In a real emergency, call a contact person at the school. Emergency contact information is on this window.

You can use ALOHA to take more factors into account about the release (e.g., city location, atmospheric conditions).

While you can make Screenings & Scenarios calculations to get an initial estimate of the threat zone, ALOHA can give you a more realistic estimate.

CAMEO's Screenings & Scenarios module is primarily for planning purposes. ALOHA is more appropriate during an emergency response.

3.12 Housekeeping

After you complete this guided tour tutorial, and before you use CAMEO for your own work, delete the sample records used in this guided tour from your CAMEO modules.

3.12.1 Lesson #9 -- Learning objective

- To delete unneeded CAMEO records.

3.12.2 Lesson #9 -- Deleting Records List -- Steps

1. Go to the Facilities, Special Locations, and Census Data modules and delete each record. Highlight the record. Click the **Record** menu, and then click **Delete**. Do this one record at a time!
2. Click the **Utilities** menu, and then click **Pack Tables**. CAMEO displays the **Select Tables To Pack** dialog box (Figure 38).

3. Mark all files by clicking the **Mark All** button. Click the **OK** button. CAMEO permanently deletes records and reindexes the database.

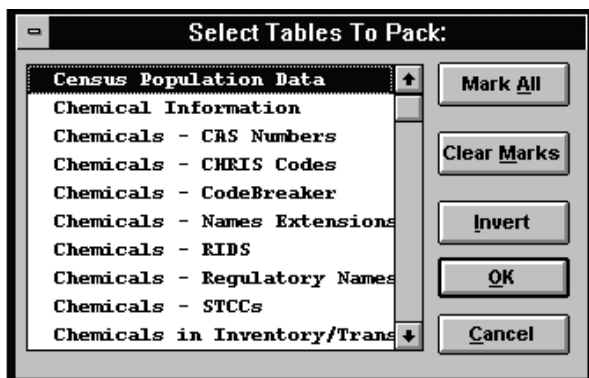


Figure 38: Select Tables To Pack dialog box

3.12.3 Lesson #10 -- Learning objective

- How to delete the Prince William County map from your hard drive.

3.12.4 Lesson #10 -- Removing the map -- Steps

1. In Windows' **File Manager** Program Group, click the **File** menu.
2. Select the drive and directory path.
3. Click on the proper subdirectory (i.e., C:\MARPLOT\PWCMAP).
4. Click **Delete**. Windows deletes the subdirectory.

4 Learning more

For more about any CAMEO feature, see **Chapter 3: CAMEO's modules** in the *CAMEO® 1.2 for Windows User's Guide*.

To learn more about MARPLOT, see the guided tour section in the *MARPLOT manual*.

For more about MARPLOT with CAMEO, see the Mapping CAMEO and MARPLOT section of **Chapter 3: CAMEO's modules** in the *CAMEO® 1.2 for Windows User's Guide*.

For more about ALOHA®, the air dispersion model included with CAMEO, see the ALOHA manual.

5 Quitting CAMEO

To quit CAMEO while any CAMEO module is displayed, click the **File** menu, and then click **Exit**. CAMEO closes. To quit MARPLOT, click the **File** menu and then click **Exit**.